

SUPPORT FOR THE AMENDMENT

Applicants have corrected an error in formula (I), as the groups  $R^1$  to  $R^3$ , already defined, now appear in the formula. Applicants have also amended the last line of claim 1 to read more clearly. Applicants have further amended claim 5 to delete a redundant recitation of monomer and to correct the description of the  $R^8$  and  $R^9$  radicals which would be immediately recognized by those of ordinary skill in the art to be monovalent alkyl radicals. Applicants' amendments are the correction of errors which are clear to those of ordinary skill in the art, the corrections thereof being also clear. Applicants have also added a missing period to the end of claim 15. No new matter would be added to this application by entry of this amendment. No new issues would be raised before the examiner, as applicants have merely corrected a minor error in the structure. Entry of applicants' amendment and full consideration thereof at this stage of prosecution is respectfully requested.

Upon entry of this amendment, claims 1-6 and 8-15 will remain active in this application with claims 1-3, 6 and 8-15 being under active consideration.

REQUEST FOR RECONSIDERATION

The claimed invention is directed to a method of cosmetically treating hair, skin or nails by applying an aqueous dispersion of a cross-linked cationic polymer prepared by free radically polymerizing a water-in-water emulsion.

The rejections of claims 1-2, 8-9 and 11-15 under 35 U.S.C. §102(b) over Maurin et al. U. S. 6,403,642 and of claims 1-3, 6 and 8-15 under 35 U.S.C. §103(a) as obvious over Schade et al. U.S. 5,962,613 in view of Maurin et al. are respectfully traversed.

None of the cited references disclose or suggest a process of treating hair using the claimed **polymer prepared by a water-in-water emulsion polymerization method** (i.e. 1-100 wt. % of saturation of salt and 0.1 to 30 wt. % of at least one water-soluble protective colloid). A polymer prepared by water-in-water emulsion polymerization has been demonstrated to be possessed of properties which are different from those of a polymer prepared according to Maurin et al. or Schade et al. and therefore the claimed method is not rendered obvious by the cited combination of references.

*Neither Reference Describes A Water-In-Water Emulsion Polymer*

Applicants note that none of the cited references disclose the claim limitation of a cross-linked cationic polymer **prepared by free-radical polymerizing in a water-in-water emulsion**. A water-in-water emulsion polymerization may be characterized by the monomers being polymerized in the presence of 1-100 wt. % of the saturation amount of a salt and 0.1 to 30 wt. % of at least one water-soluble protective colloid.

Applicants have noted this deficiency in the cited references and this deficiency has not been addressed in any official action.

In view of the deficiency of the cited references to disclose the claim limitation of **prepared by free-radical polymerizing in a water-in-water emulsion**, the claimed

invention is neither anticipated nor rendered obvious by the cited references and the rejections must be withdrawn.

*The Claimed Treatment Method Uses A Polymer Prepared by Water-In-Water Emulsion Polymerization*

Page 3 of the official action recognizes the claimed product-by-process limitation, but asserts that the composition is not claimed. Applicants respectfully note that the claimed process recites as **a claim element**, the application of **a polymer which is prepared by free radical polymerization in a water-in-water emulsion**. Thus, by claiming the use of a polymer prepared by a specific method, the composition is a claim element.

*The Claimed Polymer Is Possessed Of Properties Which Are Not Possessed By The Reference Polymers*

Applicants have provided **evidence** of different properties for polymers prepared by the claimed water-in-water emulsion technique.

Such evidence is apparent by the data appearing in Table 1 on page 37 of applicants' specification. For the examiner's convenience, the data from Table 1 is summarized below;

example	Solution viscosity (mPas/6.5% by wt.)	Appearance of Solution
1	8,000/solution	Clear/no structure
2	11,500/solution	Clear/no structure
3	4,500/solution	Clear/no structure

Examples 1-3 were possessed of a low solution viscosity and formed clear solutions.

Applicants note an apparent discrepancy in the reporting of the viscosity data for examples 4-5 of Table 1 appearing on page 37 of applicants' specification and accordingly, at this time, such viscosity data is not being relied upon.

Not only is the claimed product-by-process polymer possessed of properties which are not possessed by a conventional solution polymerized polymer in terms of viscosity, but applicants have also provided **evidence** of a difference in **performance in a hair treatment** method resulting from the claimed product-by-process polymer.

The examiner's attention is directed to page 41 of the specification in which the hair combing performance is demonstrated for the polymers of examples 1-5. For the examiner's convenience the data is summarized below:

Shampoo Example No	Preparation Example No	Reduction in Combing force, wet (Grade/%)	Reduction in Combing force dry (Grade/%)	Appearance of Shampoo solution
6	1	1-2/53	1-2 / 85	Clear
7	2	1-2/56	1-2 / 79	Clear
8	3	1-2/48	1- / 88	Clear
9 Comp	4 Comp	2+/18	2 / 48	Clear
10 Comp	5 Comp	2+ / 29	2-3 / 45	Clear

Shampoo Example Nos 7 and 9 Comp demonstrate a reduction in combing force resulting from polymerizing by a water-in-water polymerization technique (1-2/56 wet, 1-2 / 79 dry) as compared with a solution polymerizing technique(2+/18 wet, 2 / 48 dry).

Shampoo Example Nos 8 and 10 Comp further demonstrate this performance dichotomy (1-2/48 wet, 1- / 88 dry) v. (2+ /29 wet, 2-3 / 45 dry). Thus, the claimed method has been demonstrated to yield hair possessed of a more greatly reduced combing force as a result of polymerization by a water-in-water technique.

Applicants' demonstration of a greater decrease in combing force in a method of hair treatment meets applicants' burden of proof as to the effects of the claimed product-by-process limitation.

The Patent Office bears a lesser burden of proof in making out a case of *prima facie* obviousness for product-by-process claims because of their peculiar nature" than when a product is claimed in the conventional fashion. *In re Fessmann*, 489 F.2d 742, 744, 180 USPQ 324, 326 (CCPA 1974). Once the examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of

the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983) M.P.E.P. 2113

Page 5 of the official action suggests a lack of understanding of the relevance of applicants' demonstration. Applicants repeat that the product-by process limitation of the claimed method **combined with the evidence** that the process produces a change in the performance of the method meets the burden to provide evidence of the failure of the cited references to disclose the claim limitation of a polymer prepared by a water-in-water emulsion polymerization technique. If the reference had disclosed the claimed polymer, the reference polymer would have the same performance properties. Since the performance properties are different, the reference clearly does not disclose the claimed polymer. In view of applicants' evidence of differences in performance properties, the relevancy of applicants' demonstration should become lucid.

At the crux of the rejection appears to be the failure to recognize that applicants have met their burden of proof as to their product by process claim by demonstrating that the claim process confers a physical property to the polymer which is not possessed by a conventionally produced solution polymer. Certainly a demonstration of a greater reduction in combing force for treated hair is a sufficient demonstration.

Page 3 of the official action asserts that claim 1 does not recite a feature or property for the polymer which would preclude the hair composition of Maurin. Applicants note that the polymer used in claim 1 possesses a property which is not found in the hair composition of Maurin in terms of **combing force reduction**, a property which is reflected in the claim limitation of polymerization by water-in-water polymerization. The combing force reduction property of a solution polymerized polymer has been **demonstrated** to be smaller than that of a polymer prepared by the claimed water-in-water emulsion technique.

Page 5 of the official action of January 22, 2008 asserts equivalency of the Maurin polymer based on the recited use of a quaternary ammonium substituted polymer and surfactant salts citing column 4, line 7 through column 5, line 38 of the reference. Applicants respectfully note that the sections relied upon by the examiner merely describe components of a detergent composition (column 3 lines 24-29 and column 4, lines 7-12) and does not describe a water-in-water emulsion polymerization **process** in which a protective colloid and a salt are present, as claimed. The reference fails to describe the details of the polymerization technique in any form, much less the details of water-in-water polymerization.

Since the cited references fail to disclose or suggest the claimed polymer prepared by water-in-water emulsion polymerization, the claimed method is neither anticipated nor rendered obvious by the cited references and withdrawal of the rejections under 35 U.S.C. 102(b) and 35 U.S.C. 103(a) is respectfully requested.

The objection to claim 1 has been addressed by deletion of the second recitation of the term "dialkylaminoalkyl(meth)acrylamides." The same issue is addressed in withdrawn claim 5.

Applicants submit that this application is now in condition for allowance and early notification of such action is earnestly solicited.

Respectfully submitted,

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